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ABSTRACT OF THE INVENTION

A wireless digital personal communications system (or PCS) having a plurality of radio cell base stations, fixed terminals, and portable handset terminals, each having a predetermined radio cell coverage area. The wireless PCS has a full digital network interface. The personal communications system facilitates the interconnection and switching of PCS call traffic through the digital network interface and the public switched telephone network, or any switched network. The personal communications system has voice/data/image (or any combination thereof) and incoming and outgoing calling capability. The PCS is fully operational and compatible with any and all modulation approaches selected for wireless communications. The intercell protocol hand-off being provided through distributed logic which is implemented in software that is resident in the intelligent portable handset terminals, in the intelligent fixed terminals, in the intelligent base stations, and in the public switched telephone network (or any switched network). Alternative embodiments of the present invention include a wireless digital personal communications system having authentication means for authenticating a remote device; a wireless digital personal communications system having a combination of authentication means for authenticating a remote device and security means for securing signal and message content between an intelligent base station and a remote device, the security means including a predetermined encryption and decryption technique; a wireless digital personal

communications system having dynamic zone grouping of portable handset terminals or fixed terminals; and a wireless digital personal communications system having call forwarding for unanswered calls.

APPENDIX I

I. FUNCTIONAL MESSAGE REQUIREMENTS FOR TERMINAL REGISTRATION:

<u>MESSAGE</u>	<u>ELEMENTS</u>
LOCate_REQuest	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number, Operation Code) IBS-->PSC
NCA_REQuest	(PCSPID, Portable or Fixed Terminal Number, Base Station Routing number, Universal Personal Telephone Number, Operation Code) PSC-->SCP
NCA_RESponse	(Portable or Fixed Terminal Number, Acknowledgment code) SCP-->PSC
REGCANC	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Home SCP-->Previously Visited SCP
REGCANC_RESponse	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Previously Visited SCP-->Home SCP
RELease_COMplete	(Portable or Fixed Terminal Number, Acknowledgement code) PSC-->IBS
LOCate_ACcept	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-->Portable or Fixed Terminal
LOCate_REJect	(Reject reason) IBS--> Portable or Fixed Terminal

II. FUNCTIONAL MESSAGE REQUIREMENTS FOR IBS AUTHENTICATION
AND SECURITY KEY DERIVATION:

MESSAGE

ELEMENTS

NCA_REQUEST	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, RS, RAND_F, Base Station Routing Number) SCP-->PSC
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, RS, RAND_F, Base Station Routing Number) PSC-->IBS
AUTHentication_REQUEST	(RS, RAND_F) IBS-->Portable or Fixed Terminal
AUTHentication_REPLY	(RES1) Portable or Fixed Terminal-->IBS
RELEASE_COMPLETE	(RES1, Base Station Routing Number, Portable or Fixed Terminal Number, Operation Code) IBS-->PSC
NCA_RESPONSE	(RES1, Base Station Routing Number, Portable or Fixed Terminal Number, Operation Code) PSC-->SCP

III. FUNCTIONAL MESSAGE REQUIREMENTS FOR TERMINAL REGISTRATION --- ROAMING:

<u>MESSAGE</u>	<u>ELEMENTS</u>
LOCate_REQUEST	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) IBS-->PSC
NCA_REQUEST	(PCSPID, Portable or Fixed Terminal Number, Base Station Routing Number, Universal Personal Telephone Number, Operation Code) PSC-->Visited SCP
REGNOT	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) Visited SCP-->Home SCP
REGNOT	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, User Profile, RS, KS) Home SCP-->Visited SCP
REGCANC	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Home SCP-->Previously Visited SCP
REGCANC	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Previously Visited SCP-->Home SCP
NCA_RESPONSE	(Portable or Fixed Terminal Number, Acknowledgement Code, Base Station Routing Number) Visited SCP-->PSC
RELease_COMPLete	(Portable or Fixed Terminal Number, Acknowledgement Code, Base Station Routing Number) PSC-->IBS

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LOCate_ACcept

(PCSPID, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number)

IBS-->Portable or Fixed Terminal

LOCate_REJect

(Reject reason)

IBS-->Portable or Fixed Terminal

IV. FUNCTIONAL MESSAGE REQUIREMENTS FOR IBS AUTHENTICATION
AND SECURITY KEY DERIVATION FOR ROAMING MODE OF
OPERATION:

<u>MESSAGE</u>	<u>ELEMENTS</u>
NCA_Request	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, RS, RAND_F, Base Station Routing Number) SCP-->PSC
Register_Request	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, RS, RAND_F, Base Station Routing Number) PSC-->IBS
AUTHentication_Request	(RS, RAND_F) IBS-->Portable or Fixed Terminal
AUTHentication_REPLY	(RES1, Base Station Routing Number, Portable or Fixed Terminal Number, Operation Code) Portable or Fixed Terminal-->IBS
RELease_Complete	(RES1, Base Station Routing Number, Portable or Fixed Terminal Number, Operation Code) IBS-->PSC
NCA_RESPONSE	(RES1, Base Station Routing Number, Portable or Fixed Terminal Number, Operation Code) PSC-->SCP

V. FUNCTIONAL MESSAGE REQUIREMENTS FOR IBS CALL ORIGINATION:

<u>MESSAGE</u>	<u>ELEMENTS</u>
SETup	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Channel Identification, Base Station Routing Number, Operation Code) IBS-->PSC
NCA_REQUEST	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number, Operation Code) PSC-->SCP
NCA_RESPONSE	(Portable or Fixed Terminal Number, Derived Cipher Key, User Profile, Reason Code, Base Station Routing Number, Operation Code) SCP-->PSC
SERVICE_REPLY	(Portable or Fixed Terminal Number, Derived Cipher Key, Reason Code, Base Station Routing Number, Operation Code) PSC-->IBS
CIPHER_REQUEST	(Cipher Information) IBS-->Portable or Fixed Terminal
SETup	(Channel Identification, Base Station Telephone Number, PCSPID, Portable or Fixed Terminal Number or Universal Personal Telephone Number) IBS-->PSC
SETup_ACKnowledge	(Progress Indicator, Signal) PSC-->IBS
SETup_ACKnowledge	(PCSPID, Portable or Fixed Terminal Number or Universal Personal Telephone Number, Progress Indicator, Signal) IBS-->Portable or Fixed Terminal

INfOrMation	(Portable or Fixed Terminal Number, Universal Personal Telephone Number, Keypad) Portable of Fixed Terminal-->IBS
INfOrMation	(Portable or Fixed Terminal Number or Universal Personal Telephone Number, Keypad) IBS-->PSC
INfOrMation_COLLected	(Portable or Fixed Terminal Number or Universal Personal Telephone Number, Keypad, Base Station Telephone Number) PSC-->SCP
ANALyze_ROUTE	(Portable or Fixed Terminal Number or Universal Personal Telephone Number, Called Party Number, Primary Carrier, Charge Number, Charge Party Station Type) SCP-->PSC
INITial_ADDReSS_MESSAge	(Calling Party Number, Called Party Number) PSC-->Called Office
CALL_PROCeeding	(Portable or Fixed Terminal Number or Universal Personal Telephone Number) PSC-->IBS
ADDReSS_COMPLete	(Calling Party Number, Called Party Number) Called Office-->PSC
ALERTing	(Portable or Fixed Terminal Number or Universal Personal Telephone Number, Progress Indicator, Signal) PSC-->IBS
ALERTing	(Portable or Fixed Terminal Number or Universal Personal Telephone Number, Progress Indicator, Signal) IBS--> Portable or Fixed Terminal
ANSWer	(Calling Party Number, Called Party Number) Called Office-->PSC
CONNeCT	(Portable or Fixed Terminal Number or Universal Personal Telephone Number, Connected Number, Progress Indicator, Notification Indicator) PSC-->IBS

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CONNECT

(Progress Indicator)
IBS-->Portable or Fixed Terminal

CONNECT_ACKnowledge

IBS-->PSC

VI. FUNCTIONAL MESSAGE REQUIREMENTS FOR INCOMING CALL:

MESSAGE

ELEMENTS

INfOrMation_AnALyzed	(Calling Party Number, Called Party Number, Primary Carrier) AIN EndOffice/Tandem-->SCP
ANALyze_ROUTE	(Portable or Fixed Terminal Number, PCSPID, Universal Personal Telephone Number, Calling Party Number, Primary Carrier, Base Station Routing Number) SCP-->AIN EndOffice/Tandem
INITial_ADDReSS_MESSAge	(Calling Party Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) AIN EndOffice/Tandem-->PSC
TERMinating ATTempT	(Calling Party Number, Base Station Routing Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) PSC-->SCP
Send_To_RESource	(Announcement ID, play announcement) SCP-->PSC
NCA REQuest	(UPT, Portable or Fixed Terminal Number, Zone Routing Number, Operation Code, PCSPID) SCP-->IBS
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Operation Code) PSC-->IBS
PAGE_REQuest	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-->Portable or Fixed Terminal
PAGE_RESponse	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS
RELease_COMPlete	(Portable or Fixed Terminal Number, Channel Identification, Portable or Fixed Terminal Status, Universal Personal Telephone Number, Base Station Routing Number, UPT) IBS-->PSC

NCA_RESPONSE	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Portable or Fixed Terminal Status, Base Station Telephone Number) PSC--->SCP
NCA_DATA	(Portable or Fixed Terminal Number, Derived Cipher Key, User Profile, Reason Code, Base Station Routing Number) SCP-->PSC
REGister	(Portable or Fixed Terminal Number, Base Station Routing Number, DCK, Operation Code, Reason Code) PSC-->IBS
CANCEL_RESOURCE-Event	SCP-->PSC
RESOURCE_Clear	SCP-->PSC
FORWARD_CALL	(Base Station Telephone Number, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Calling Party Number, UPT, Charge Number, Charge Party Station Type) SCP-->PSC
SETup	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Calling Party Number) PSC-->IBS
SETup	(Portable or Fixed Terminal Number, Universal Personal Telephone Number, Calling Party Number, Basic Service, Display, Signal) IBS-->Portable or Fixed Terminal
ALERTing	(Progress Indicator, Signal) IBS-->PSC
CONNECT	Portable or Fixed Terminal-->IBS
CONNECT	IBS-->PSC
ANSwer	PSC-->AIN EndOffice/Tandem
CONNECT_ACKnowledge	PSC-->IBS

VII. FUNCTIONAL MESSAGE REQUIREMENTS FROM INCOMING CALL ---
NO ANSWER:

MESSAGE

ELEMENTS

INfOrMation_AnALyzed	(Calling Party Number, Called Party Number, Primary Carrier) AIN EndOffice/Tandem-->SCP
ANALyze_ROUTE	(Portable or Fixed Terminal Number, PCSPID, Universal Personal Telephone Number, Calling Party Number, Primary Carrier, Base Station Routing Number) SCP-->AIN EndOffice/Tandem
INITial_ADDReSS_MESSAge	(Calling Party Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) AIN EndOffice/Tandem-->PSC
TERMinating ATTempT	(Calling Party Number, Base Station Routing Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) PSC-->SCP
Send_To_RESource	(Announcement ID, play announcement) SCP-->PSC
NCA_REQuest	(UPT Terminal Number, Zone Routing Number, Operation Code, PSCPID) SCP-->PSC
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Operation Code) PSC-->IBS
PAGE_REQuest	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-->Portable or Fixed Terminal
PAGE_RESPonse	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS
RELease_COMPLete	(Portable or Fixed Terminal Number, Channel Identification, Portable or Fixed Terminal Status, Universal Personal Telephone Number, Base Station Routing Number, UPT) IBS-->PSC

NCA_RESPONSE	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Portable or Fixed Terminal Status, Base Station Telephone Number) PSC-->SCP
NCA_DATA	(Portable or Fixed Terminal Number, Derived Cipher Key, User Profile, Reason Code, Base Station Routing Number) SCP-->PSC
REGister	(Portable or Fixed Terminal Number, Base Station Routing Number, DCK, Operation Code, Reason Code) PSC-->IBS
CANCEL_RESOURCE-Event	SCP-->PSC
RESOURCE_Clear	SCP-->PSC
Forward_Call	(Base Station Telephone Number, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Calling Party Number, UPT, Charge Number, Charge Party Station Type) SCP-->PSC
SETup	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Calling Party Number) PSC-->IBS
SETup	(Portable or Fixed Terminal Number, Universal Personal Telephone Number, Calling Party Number, Basic Service, Display, Signal) IBS-->Portable or Fixed Terminal
ALERTing	(Progress Indicator, Signal) IBS-->PS
T_NO_ANSWER	(Calling Party Number, Base Station Telephone Number, Portable or Fixed Terminal Number or Universal Personal Telephone Number) PSC-->SCP
FORWARD_CALL	(Calling Party Number, Forward to Telephone Number, Portable or Fixed Terminal Number or Universal Personal Telephone Number) SCP-->PSC

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DISConnect

(Cause)
PSC-->IBS

RELease

(Release Reason)
IBS-->Portable or Fixed Terminal

RELease_COMplete

Portable or Fixed Terminal-->IBS

RELease

IBS-->PSC

RELease_COMplete

PSC-->IBS

VIII. FUNCTIONAL MESSAGE REQUIREMENTS FOR INCOMING CALL ---
USER BUSY:

<u>MESSAGE</u>	<u>ELEMENTS</u>
INfOrMation_AnALyzed	(Calling Party Number, Called Party Number, Primary Carrier) AIN EndOffice/Tandem-->SCP
ANALyze_ROUTE	(Portable or Fixed Terminal Number, PCSPID, Universal Personal Telephone Number, Calling Party Number, Primary Carrier, Base Station Routing Number) SCP-->AIN EndOffice/Tandem
INITial_ADDReSS_MESSAge	(Calling Party Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) AIN EndOffice/Tandem-->PSC
TERMinating ATTempT	(Calling Party Number, Base Station Routing Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) PSC-->SCP
Send_To_RESource	(Announcement ID, play announcement) SCP-->PSC
NCA_REQuest	(UPT, Portable or Fixed Terminal Number, Zone Routing Number, Operation Code, PCSPID) SCP-->PSC
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Operation Code) PSC-->IBS
PAGE_REQuest	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-->Portable or Fixed Terminal
PAGE_RESPOnse	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS

RELease_COMPLete

(Portable or Fixed Terminal Number,
Channel Identification, Portable or
Fixed Terminal Status, Universal Person-
al Telephone Number, Base Station Rout-
ing Number, UPT)
IBS-->PSC

NCA_RESPOnse

(PCSPID, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number, Portable or Fixed Terminal
Status, Base Station Telephone Number)
PSC-->SCP

FORWard_CALL

(Calling Party Number, Forward to Tele-
phone Number, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number)
SCP-->PSC

IX. FUNCTIONAL MESSAGE REQUIREMENTS FOR INCOMING CALL ---
NOT HERE:

<u>MESSAGE</u>	<u>ELEMENTS</u>
INfOrMation_AnALyzed	(Calling Party Number, Called Party Number, Primary Carrier) AIN EndOffice/Tandem-->SCP
ANALyze_ROUTE	(Portable or Fixed Terminal Number, PCSPID, Universal Personal Telephone Number, Calling Party Number, Primary Carrier, Base Station Routing Number) SCP-->AIN EndOffice/Tandem
INITial_ADDReSS_MESSAge	(Calling Party Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) AIN EndOffice/Tandem-->PSC
TERMinating ATTempT	(Calling Party Number, Base Station Routing Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) PSC-->SCP
Send_To_RESource	(Announcement ID, Play Announcement) SCP-->PSC
NCA REQuest	(UPT, Portable or Fixed Terminal Number, Zone Routing Number, Operation Code, PSCPID) SCP-->PSC
REGister	(PSCPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Operation Code) PSC-->IBS
PAGE_RESPonse	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-->Portable or Fixed Terminal
RELease_COMplete	(Portable or Fixed Terminal Number, Channel Identification, Portable or Fixed Terminal Status, Universal Personal Telephone Number, Base Station Routing Number, UPT) IBS-->PSC

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NCA_RESPONSE

(PCSPID, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number, Portable or Fixed Terminal
Status, Base Station Telephone Number)
PSC-->SCP

FORWARD_CALL

(Calling Party Number, Forward to Tele-
phone Number, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number)
SCP-->PSC

X. FUNCTIONAL MESSAGE REQUIREMENTS FOR INCOMING CALL ---
INTERFACE BUSY:

<u>MESSAGE</u>	<u>ELEMENTS</u>
INfOrMation_AnALyzed	(Calling Party Number, Called Party Number, Primary Carrier) AIN EndOffice/Tandem-->SCP
ANALyze_ROUTE	(Portable or Fixed Terminal Number, PCSPID, Universal Personal Telephone Number, Calling Party Number, Primary Carrier, Base Station Routing Number) SCP-->AIN EndOffice/Tandem
INITial_ADDReSS_MESSAge	(Calling Party Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Base Station Routing Number) AIN EndOffice/Tandem-->PSC
TERMinating ATTempT	(Calling Party Number, Base Station Routing Number, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) PSC-->SCP
Send_To_RESource	(Announcement ID, Play Announcement) SCP-->PSC
NCA REQuest	(UPT, Portable or Fixed Terminal Number, Zone Routing Number, Operation Code, PSCPID) SCP-->PSC
REGister	(PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number, Operation Code) PSC-->IBS
PAGE_REQuest	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-->Portable or Fixed Terminal
PAGE_RESPOne	(Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS

RELease_COMplete

(Portable or Fixed Terminal Number,
Channel Identification, Terminal Status,
Universal Personal Telephone Number,
Base Station Routing Number, UPT)
IBS-->PSC

NCA_RESponse

(PCSPID, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number, Portable or Fixed Terminal
Status, Base Station Telephone Number)
PSC-->SCP

FORWard_CALL

(Calling Party Number, Forward to Tele-
phone Number, Portable or Fixed Terminal
Number, Universal Personal Telephone
Number)
SCP-->PSC

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XI. FUNCTIONAL MESSAGE REQUIREMENTS FOR HAND-OFF

<u>MESSAGE</u>	<u>ELEMENTS</u>
SETup	(External Handoff Request, Base Station Telephone Number-Old, PCSPID, Portable or Fixed Terminal Number, Universal Personal Telephone Number) Portable or Fixed Terminal-->IBS-new
SETup	(Feature Activation-Handoff Request, Base Station Telephone Number-New, Base Station Telephone Number-Old, Portable or Fixed Terminal Number, Universal Personal Telephone Number) IBS-new-->PSC
SETup	(Feature Activation-Handoff Request, Base Station Telephone Number-Old, Base Station Telephone Number-New, Portable or Fixed Terminal Number, Universal Personal Telephone Number) PSC-->IBS-old
CONNect	(Channel Identification, Derived Cipher Key) IBS-old-->PSC
CONNect	(Derived Cipher Key) PSC-->IBS-new
CONNect_ACKnowledge	PSC-->IBS-old
SETup_ACKnowledge	(Portable or Fixed Terminal Number, Universal Personal Telephone Number, Information Type) IBS-new-->Portable or Fixed Terminal
FACility	(Feature Activate) Portable or Fixed Terminal-->IBS-new
CONNect_ACKnowledge	IBS-new-->PSC
RELease	(Release Reason) Portable or Fixed Terminal-->IBS-old
DISConnect	(Cause) IBS-old-->PSC
RELease	(Cause, Feature Indication) PSC-->IBS-old
RELease_COMPlete	IBS-old-->PSC

XII. PCS DEFINITIONS

<u>ELEMENT</u>	<u>DEFINITION</u>
Acknowledgement Code	This is utilized to commute a specific functional components that indicate the success or failure of a registration request.
Base Station Routing Number	The routing telephone number of a group of base stations.
Base Station Telephone Number	The actual routing number of a single Base Station "B" Channel
Base Station Telephone Number - old	The actual routing number of a single Base Station "B" Channel that has current control of a call that requires hand-off.
Base Station Telephone Number - new	The actual routing number of a single Base Station "B" Channel that has been selected to request a hand-off from the network.
Basic Service:	This allows the user to specify the basic aspects of the service requested.
Called Party Number	The telephone number of the called party.
Calling Party Number	The telephone number of the calling party.
Cause	A value that is returned to describe why a message was received.
Channel Identification	The "B" channel that is identified for use during a specific call.
Cipher Information	Information relevant to enabling the cipher, identifying the algorithm to be utilized and the cipher type.
Connected Number	This is delivered to calling party if the called number was re-directed in any way.
Derived Cipher Key(DCK)	The key utilized for ciphering and deciphering data delivered over the air.

Display	This provides information that can be viewed with a terminal capable of displaying incoming data.
External Handoff Request	This element signal that a hand-off process should be started.
Feature Activate	This signals that a specific feature should be activated.
Feature Activation	Utilized to activate a specific feature as specified.
Feature Indication	Provided to signal an indication of a feature.
Forward to Telephone Number	This provides routing information relevant to a re-routing of a specific call.
Information Type	Defines specific call information.
Keypad	This element provides call information related to user dialed digits.
Notification Indicator	Provides a notice that a certain event has occurred.
Operation Code	Informs functional component regarding operation to perform.
Personal Communications Service Provider Identity (PCSPID)	The Numerical representation of a specific PCS provider.
Primary Carrier	This specifies the user primary inter-exchange carrier.
Progress Indicator	This provides certain indications during a call process.
Reason Code	Provides information regarding a rejection during a Service Request operation.
Reject Reason	Provides information regarding the rejection of an operation.
Release Reason	Provides information relevant to a release signal.

Random Number fixed part
(RAND_F)

A number, generated at the SCP that is utilized to calculate responses to an issued challenge and derive a cipher key agreement.

Result 1 (RES1)

A result that is calculated at the terminal and passed over the network to prove authenticity of the terminal.

RS

A specific value that is resident in the Providers database that is utilized to calculate responses to a challenge to achieve authentication and to derive a cipher key agreement.

Session Key (KS)

This is derived at the users home SCP and in the users terminal handset and is utilized to calculate responses to a challenge to achieve authentication and to derive a cipher key agreement.

Signal

Provides the appropriate indication that defines the signal that is being applied.

Terminal Number
(Portable or Fixed)

This is the unique identification of the Coded terminal. It takes the Decimal form of a 10 digit telephone number (UPT or NANP) that has been provisioned into the terminal device by the PCSPID.

Terminal Status
(Portable or Fixed)

This element commutes the status of a user or the interface such as user busy, user not here, interface busy.

Universal Personal
Telephone Number (UPT)

A telephone number that is not tied to any Coded geographic location. It provides the user with personal mobility.

User Profile

This user profile carries user specific information, such as: No Answer Timer, billing number, carrier selection, class of service, calling restrictions, billing rate, charge type, deregistration time-out, vertical services, etc.